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USAWC STRATEGY RESEARCH PROJECT

**Focused Logistics, Global Distribution & Stock Positioning:
Why Putting Stocks in the Right Place, the First Time, Actually Matters**

by

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ABSTRACT

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Joint Vision 2010 established the concept of Focused Logistics as a new emerging operational concept. Joint Vision 2020 established the Transformation Path for implementing the logistics concepts to support the overarching DOD goals. In 1999 the Defense Logistics Agency and the US Transportation Command established a partnership designed to enhance the Defense Global Distribution system. The program developed to coordinate this action is the Strategic Distribution Management Initiative. Through the SDMI process significant improvements to the Global Distribution system. This paper will review several of the implemented initiatives and discuss opportunities to further develop the Global Distribution system..

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PREFACE

I want to thank Professor Tom Sweeney for his mentoring during the course of this paper and academic year. His insight and professionalism have proved invaluable.

To my friends, and colleagues, from the Defense Distribution Center and USTRANSCOM many thanks for your valuable insights, comments, and friendship throughout the year. Most importantly, I would like to specifically thank COL (Ret) Gerald Jenson, USMC and Mr. Scott Rosbaugh who both spent numerous hours gathering supporting documentation and provided their insights into my research.

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FOCUSED LOGISTICS, GLOBAL DISTRIBUTION & STOCK POSITIONING: WHY PUTTING STOCKS IN THE RIGHT PLACE, THE FIRST TIME, ACTUALLY MATTERS

JOINT VISION 2020 IMPLICATIONS

Joint Vision 2020 provides the Department of Defense (DOD) with a vision and road map as to how the department is to transform to meet the nation's future security needs. Building on the concepts first introduced in Joint Vision 2010 the publication establishes a path for the continuing transformation of America's Armed Forces.

Joint Vision 2010 established four operational concepts as a basis for enhancing the capabilities of our forces through the exploitation of developing technologies. The new operational concepts are: dominant maneuver; precision engagement; full dimensional protection; and focused logistics.¹ Each concept contributes to the overall goal of achieving full spectrum dominance for the 2020 force.²

The integration of focused logistics as a full partner to the emerging conceptual framework is significant. American war fighters have understood the role of logistics in supporting operations since the Revolutionary War. But now, for the first time it is formally recognized that Logistics plays a material role in the joint war fighting process.

Joint Vision 2020 defines Focused Logistics as:

The ability to provide the joint forces the right personnel, equipment, and supplies in the right place, at the right time, and in the right quantity across the full range of military operations. This will be made possible through a real-time, web-based information system providing total asset visibility as part of a common relevant operational picture, effectively linking the operator and logistician across Services and support agencies. Through transformational innovations to organizations and processes, focused logistics will provide the joint war fighter with support for all functions.³

Focused Logistics will develop bridges or links to the various DOD and service logistics functions in order to provide a truly seamless joint logistics process. Utilizing best commercial practices, where applicable, we will take advantage of existing technology and applications to modernize our current logistics practices. Developing improved end to end management of the entire logistics system and providing precise real-time control of the logistics pipeline in support of the joint force commander's requirements will be achieved⁴.

To achieve the desired objectives of Focused Logistics, a distribution process that effectively and efficiently supports the needs of the joint war fighter is required. This process must be capable of synchronizing all elements of the logistics system to deliver the "right things" to the "right place" at the right time" in order to generate and sustain the military capability required by the joint force.⁵

Joint publication 4-09 defines global distribution as:

The process that synchronizes and integrates fulfillment of joint force requirements with employment of the force. It provides national resources (personnel and equipment) to support execution of joint operations.⁶

The global distribution system is the DOD controlled and operated or contracted end-to-end distribution system from point of origin or source of supply to final destination or point of need. To be effective a global distribution system must incorporate a transportation network which maximizes throughput and efficiently utilizes all modes of transportation. The transportation network should strive to avoid trans shipment operations and avoid lengthy delays in transit time. The proper scheduling and synchronization of transportation assets supporting the network is essential if the system is to be effective.

Additionally, the synchronization of material to arrive at ports of embarkation to meet transportation conveyance schedules is essential for an effective global distribution. Properly scheduled arrivals will ensure required personnel and material handling equipment are available when the material arrives at the port.

An advanced information system is required to provide real time visibility of material in the distribution pipeline. A crucial link to meeting the goals envisioned by Focused Logistic is advanced information that integrate real-time total asset with a common relevant operational picture.⁷ These systems will incorporate enhanced decision support tools which will provide the transportation mode operator with the advanced visibility to properly schedule departing material via the next available conveyance.

For the global distribution system to be truly effective and as efficient as possible be material must be properly positioned to enter the system. Currently the DOD does not have a across the board stock positioning policy. DOD agencies and the services maintain their own stock position policies.

Currently item managers are responsible for positioning stocks in conjunction with the purchasing and contracting process. Stocks are positioned based on established service policies or regulations. Positioning stocks to take advantage of the existing global distribution system is not a required action in the process.

The net result is five different stock position strategies which operate independently of each other. There is no attempt to maximize the use of existing, perhaps more effective distribution systems operated by sister services or the Defense Logistics Agency.

The positioning of C5 Galaxy repair parts and materials provides an example of how item managers select stockage locations. The Air Force Air Logistics Center responsible for the C5

program is located at Robins Air Base, GA. The center provides worldwide logistics management and depot-level maintenance for a number of Air Force aircraft to include the C-5 Galaxy.⁸ The C5 item manager positions repair stocks solely at the inventory control point located on the base, to support the maintenance mission. However there are no C5 Galaxy's units stationed on the facility. If a part is requested by a field unit it must be shipped to the end users location.

In an effort to accelerate the improvements in the Global Distribution system and stock positioning policies the Commander, United States Transportation Command (USTRANSCOM) and the Director, Defense Logistics Agency (DLA) formed a partnership to review existing policies and identify possible courses of actions to improve the system. This partnership developed into the Strategic Distribution Management Initiative (SDMI). In the following section I will discuss the SDMI organization, roles and functions and the impact the program has had on global distribution and stock positioning.

SDMI ORGANIZATION AND FUNCTION

As key stake holders in the global distribution and stock positioning process the Commander, USTRANSCOM and Director, DLA were in the ideal position to formulate the Strategic Distribution Management Initiative. However, as the global distribution process affects each of the combatant commanders, other defense agencies and the four services a holistic approach was required in order to develop and implement process improvements.

The overall impact USTRANSCOM has on global distribution is substantial. USTRANSCOM is responsible for strategic common-user air, land and sea transportation and traffic management as well as port management at aerial ports of embarkation (APOEs), aerial ports of debarkation (APODs), seaports of embarkation (SPOEs, and seaports of debarkation (SPODs) for the DOD across the range of military operations. As the functional command responsible for the Defense Transportation System (DTS), USTRANSCOM exercises responsibility for planning, resourcing, and operating a worldwide transportation system in support of distribution operations and geographic combatant commanders.⁹

USTRANSCOM is comprised of three transportation component commands. The TCCs provide strategic air, land and sea transportation, traffic management and terminal services to deploy, employ, sustain, and redeploy military forces. The TCCs orchestrate that portion of the global distribution system and the Nation's transportation infrastructure supporting DOD common user transportation needs.¹⁰ The transportation system combines and integrates the

capabilities of the military and commercial transportation providers to maximize the use of available assets.

The three transportation component commands are:

- Air Mobility Command (AMC), US Air Force - The primary air provider for the DTS. AMC provides air mobility to deploy , employ and sustain US forces on a global basis.
- Military Sealift(MSC), US Navy - The primary sea component of the DTS. MSC provides military and contracted commercial common user and exclusive use sealift transportation to deploy , employ and sustain US forces on a global basis.
- Military Traffic Management Command (MTMC), US Army - The continental United States (CONUS) surface transportation manager and provides common-user ocean terminal services and traffic management services to deploy , employ and sustain US forces on a global basis.

Through the three TCCs USTRANSCOM supports the global distribution system by providing or coordinating for the movement of assets to ensure the timely delivery of required forces and sustain. Through a number of information management systems USTRANSCOM also provides visibility of cargo as it transits the distribution system. The timely flow of transportation management information is key if the over arching goals set in Focused Logistics are to be met.

In order for USTRANSCOM to effectively and efficiently operate the global distribution system, stocks must be located appropriately to enter the DTS. The DOD Agency positioned to effect the stock positioning for the overwhelming majority of defense related stocks is the DLA. DLA provides worldwide logistics support to the military services and the combatant commanders across the full range of military operations as well as to other DOD components, federal agencies, foreign governments, and international organizations. DLA is responsible for managing and distributing over 80% of the existing stockage of defense material including physical distribution of service owned and managed stocks and nearly all of the fuel and petroleum products for military usage.¹¹

A principle role of DLA in the global distribution process is to integrate material and supply chain management and distribution support for all subsistence, organizational clothing and individual equipment, maps and charts, bulk fuel and packaged petroleum products, construction material, medical supplies and equipment and other consumable items. DLA's lead center for distribution is the Defense Distribution Center (DDC).

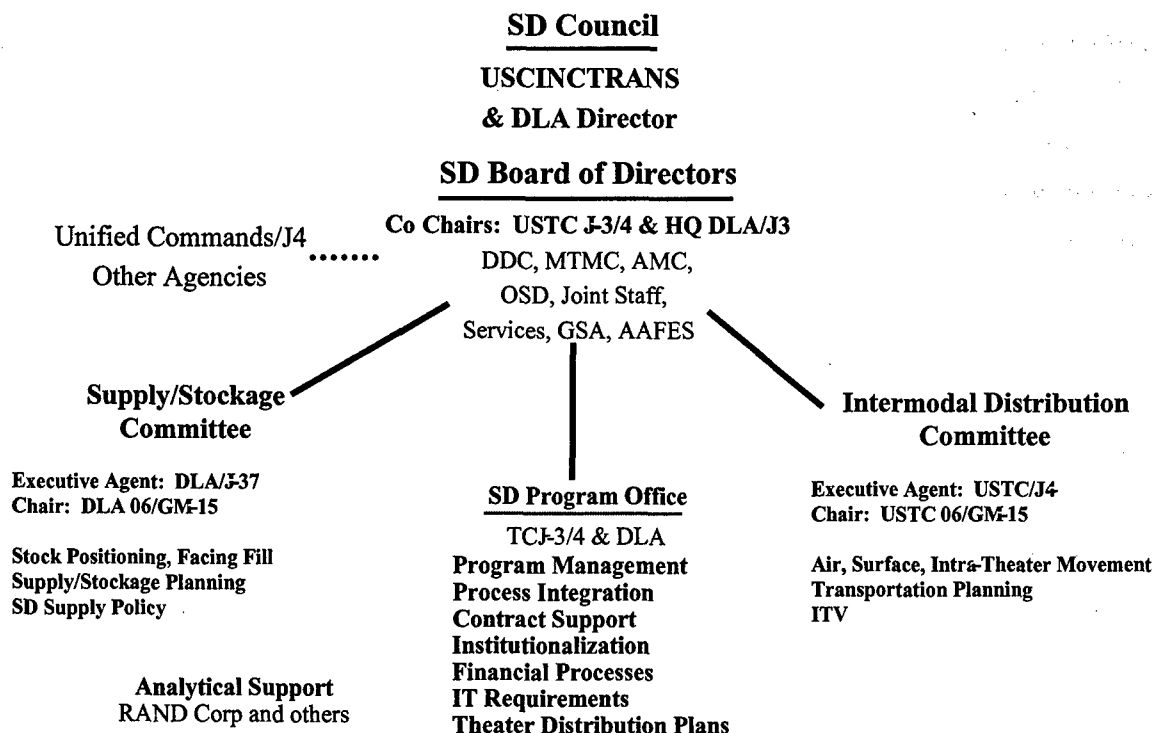
With the partnering of the DOD lead supplier (DLA) and the DOD transportation provider (USTRANSCOM) the genesis for developing the SDMI program was realized. Through staff coordination a SDMI structure was developed. The Commander, USTRANSCOM and Director,

DLA would serve as the Senior Partners/Co-Directors. The USTRANSCOM Director of Operations and Logistics (TCJ3/J4) and the DDC, Commander would serve as Co-Directors of this initiative and provide direct, day-to-day oversight of SD activities. Their responsibilities include providing overall program direction, along with the co-chairing of the SD Board of Directors on a quarterly basis.

Given the size and scope of the global distribution system, for SDMI to succeed a means of including all the various DOD activities, services and other agencies involved in the process were required. The establishment of an SDMI Board of Directors provided the venue of those other global distribution system users to impact on the SDMI program.

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SD Organizational Structure



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ration was contracted to support the initiative. RAND's expertise was key in providing analytical support and a thorough analysis of the global distribution system.

The methodology used to develop the process improvement process was also "borrowed" from the VM program. The Define, Measure and Improve (DMI) process methodology was institutionalized in the SDMI process.

A brief description of the DMI process follows¹².

1. Define: Identifies the customers of a process and what they need from the process in terms of outputs. The process is broken down into measurable segments or sub processes
2. Measure: Quantifies how the process occurs. Improvement is sought on three dimensions of performance: time, quality and cost. The identified measures can be used to identify performance problems, monitor the effects of changes made and provide feedback to those implementing the changes.
3. Improve: Capitalizes on the increased expertise developed during the first two steps. Process improvement measures are implemented

The key to success in implementing DMI is the understanding that the process is cyclical. Once improvement measures are implemented the process must be "redefined" and measured against expected outcomes. If the desired outcome has not been achieved, new process improvements will be developed and implemented, and the cycle begins again.

SDMI AIR DISTRIBUTION-TEST

An example of the way the DMI methodology was used in the SDMI process is the SDMI Air Distribution-Test (SAD-T) which was conducted in July 2000. The SAD-T was a joint USTRANSCOM, DLA, and USEUCOM effort to evaluate the velocity of air distribution to and within the European Theater.

The goals of the test were to:

- Provide increased velocity and a proof of concept to identify, test, measure, and implement time definite delivery (TDD) distribution processes. Apply successful tested process changes to other channels to increase distribution velocity / improve TDD to customer.¹³

The specific objectives of the test were ¹⁴:

- Clearly define and measure the TDD process / procedures used throughout the distribution pipeline
- Formulate specific policy change recommendations; promote training opportunities that facilitate goal accomplishment
- Maintain 100% in-transit visibility and capture all performance data germane to improving distribution velocity
- Avoid adversely impacting existing cargo flow
- Clear delineation of participant roles, responsibilities, and guidance to enable cargo movement / mode selection decision-making
- Foster long-term teamwork / cooperation among participants to streamline all transportation processes

The SAD-T test was built on the accomplishments of an earlier SDMI evaluation of pallets moving from CONUS to Ramstein Air Base. The SAD-T evaluation focused on the movement of CONUS originating pallets destined for Tuzla, Bosnia or Tazar, Hungary.

Using DMI methodology the first step in the SADT-T process was to define the individual steps involved in the process. Seven individual segments were identified. The segments were: within the depot; depot to APOE transport; APOE processing; transit time; APOD processing; APOD to SSA; and SSA to consignee. For each segment specific process owners were identified and specific actions required to complete the process were documented

Next the individual segments were analyzed to quantify the amount of time required to complete the task or tasks. This was a key step to identify the baseline for the individual activities. It was from this baseline that the impact of process improvements would be made.

The final step the process was to implement improvements and analyze the impacts on the overall process. The improvements implemented during SAD-T involved : streamlined pallet building procedures; the use of expedited transportation from the originating depot to the APOD, providing an advanced notification of pallet arrival to the APOE and APOD; and an advanced modal decision process used by the EUCOM Theater Distribution Management Cell.

The SAD-T took place over a two month period. the results of the test were dramatic. During the two-month process the Customer Wait Time (-) (CWT-) for pallets destined for Tuzla and Tazar was reduced from 15 days to 9 days, a 57% improvement.

CWT (-) is a metric used in SDMI process improvement initiatives and continues to monitored and reported at the conclusion of the initiative period. The metric captures the amount of time required to fulfill a customers order. The clock starts the day the document

order number is initiated. The process concludes the day the supply support activity receipts the item. The metric includes back orders, however the back order time is removed.

The process improvements implemented for the test were then incorporated in to the daily operating procedures of the responsible parties. In keeping with the DMI methodology the process continues to be reviewed and adjustments have been made to ensure optimum performances is maintained.

As the DLA lead center for distribution the DDC played a significant role in developing stock positioning guidance. The stockage committee provided to venue to discuss process improvements with the services and those organizations playing a role in stock positioning. To provide an understanding of the DDC's role I'll now review the DDC organization, mission and discuss the distribution concepts the command has developed in support of focused logistics.

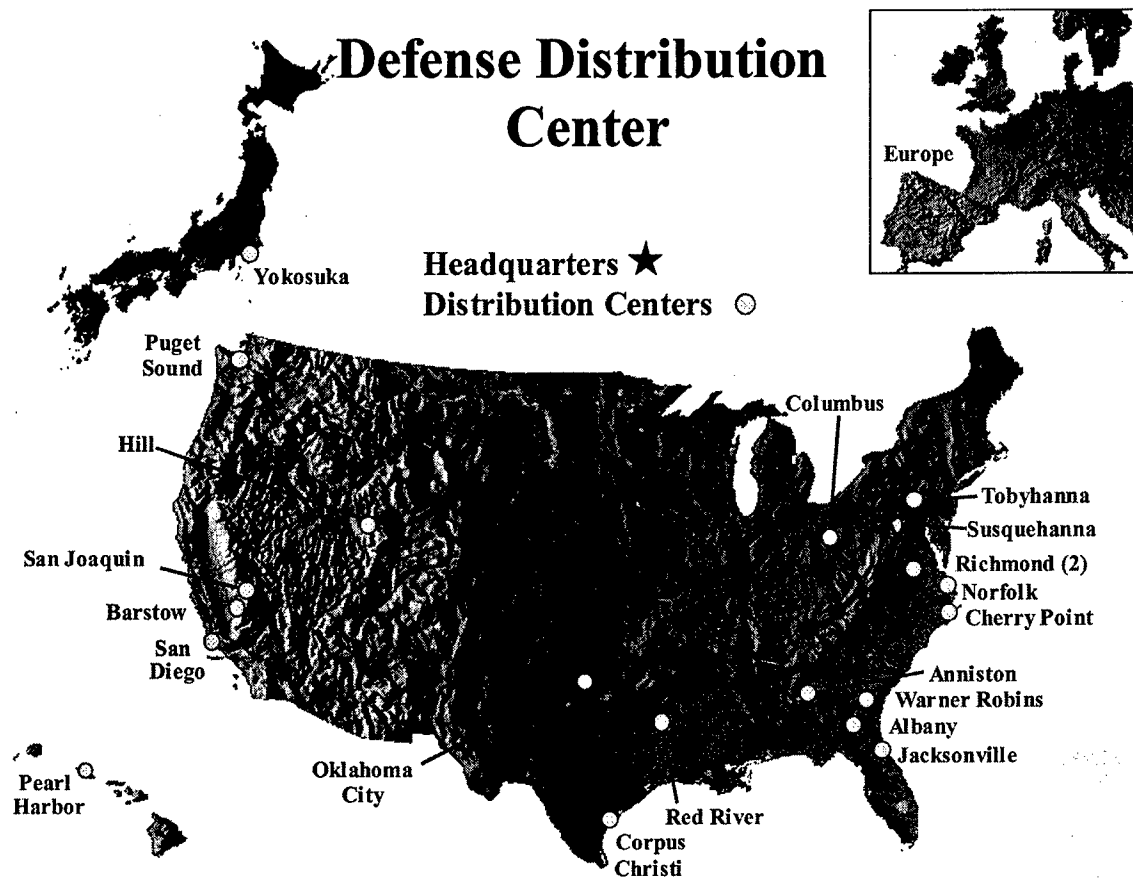
DDC AND STOCK POSITIONING

The Defense Distribution Center (DDC) was established on October 1, 1997, through the consolidation of the former Defense Distribution Regions East and West. The center's headquarters is in New Cumberland, PA. The DDC is the lead center for stock positioning and distribution. DDC's depots are located throughout the U.S. and in Europe. This network of depots stock a wide range of commodities owned by the military services and DLA, including medical, industrial, general, electronic, construction, subsistence, clothing and textile items; spare parts and components to repair and sustain weapon systems and tactical vehicles¹⁵.

The depots receive, store and issue wholesale and retail materiel worldwide. They are strategically located to take advantage of existing transportation, including rail lines, airports and highways.

A major DDC goal is to reduce total system cost. Under this initiative depot commanders have instituted procedures to process all customer orders and new procurement receipts in one day, regardless of priority. One day depot processing offers potential for large savings by reducing the logistics pipeline and many other benefits.

Savings have also been generated under infrastructure reductions directed by the Base Realignment and Closure Committees. Distribution Depots have been reduced by one third since 1992, when DLA operated 33 depots. Currently the DDC operated 22 Distribution Depots.



DDC ORGANIZATION FIGURE 2

The Distribution Depots can be grouped by the level of service provided to their respective customer base. The two Strategic Distribution Platforms (SDPs) provide the majority of support to all OCONUS customers. They are strategically located to take advantage of existing transportation, including rail lines, airports and highways. Given the size of the two facilities and the available storage the SDPs also provide back up support to other DDC Distribution Depots.

The command also operates seventeen smaller distribution depots which provide support on a regional basis. One Distribution Depot also supports hazardous material storage and distribution requirements.

The remaining three Distribution Depots are located OCONUS. The three facilities are referred to as Theater Distribution Platforms (TDPs). I'll discuss the strategy behind TDPs later in this section.

As the designated lead center for distribution the DDC is fully involved in developing the future vision of DOD distribution requirements. To meet the Focused Logistics objectives the

command is developing new concepts and procedures to better support DOD activities. Two of these recently developed concepts are currently being implemented throughout the command.

The first concept is referred to as the "Tiered Distribution" system and is concerned with how to best support the customer within the constraints of the existing 24 Distribution Depots. The second concept concerns the forward positioning of stocks and is called the Forward Stockage Initiative.

TIERED DISTRIBUTION SYSTEM

The Tiered Distribution system is designed to improve the customer service currently being provided and continue to drive operating costs down. Initially the improved distribution system will support DLA owned and managed inventories. When fully implemented the Tiered Distribution process will also support service owned and managed items as well.

Before discussing the tiered distribution concept I think it important we review the concepts and criteria for developing an effective and efficient distribution system. An effective and efficient distribution system must:

- **Minimize inventories.** Despite there being instances when holding stock is the only logical means to achieve support, it is generally accepted that any stock above the minimum required for total consumption and readiness requirements is costly and counterproductive. The stock level will be measured by total system cube stored in the depot system.
- **Result in better Order to Ship Time (OST)** Current OSTs, while excellent for a defense system, do not compare with advertised commercial standards. Current thinking is that unless commercial standards can be matched, piecemeal commercialization should continue. Continued commercialization carries with it additional costs for readiness requirements and the lack of integration to provide flexible support to military operations. A properly managed integrated Defense Distribution business area should equal commercial standards. OST is measured in days from the time of the order to the time the customer receives the item.
- **Result in lower system cost.** Any future system must permit smarter rather than just faster service. Planned and time-phased distribution (a pull rather than push system) reduces the purely reactive (demand-led) portion of the supply chain to a minimum and offers considerable cost reductions. Cost will be measured in dollars and will consist of transportation costs and infrastructure cost based on the cube of stocks at the depot.

- **Result in a high local fill rate for key customers.** The customer confidence built through the distribution system needs to be based on a high level of satisfaction of demand from the shelf of the local depot. Otherwise, the customer will continue to maintain multiple levels of insurance stock in retail accounts, which will continue to inflate total inventories unnecessarily. The criteria for the local fill rate will be the supply availability of the local depot to the local customer.
- **Limit the amount of time the customers need to process incoming shipments.** Proliferating sources of supply are increasing customers' receiving requirements. This can cause the customer to spend more time to in-process these shipments, which in turn reduces customer satisfaction. The criteria for customer processing time will be measured in the amount of time needed to process incoming shipments based on the number of shipments received¹⁶.

The fundamental concept of the tiered distribution proposal is to tailor depot inventories to meet local demands at repair depots and then to re-supply the depot with stock from the SDPs on a routine basis, based on the local demand at the repair depot. Through the proper positioning of stocks the logistics response time (LRT) transportation costs will be greatly reduced. Re-supply from the SDP to the local depot would be accommodated by scheduled dedicated truck delivery. Previous experience with the Army and the Velocity Management program, demonstrates that the use of scheduled trucks should further reduce transportation costs and logistics response time (LRT), while at the same time increasing customer satisfaction.

To further explain the tiered distribution concept I think it is important we review the roles and responsibilities of the key players:

The DDC is responsible for the operation of the Distribution Depots. This includes the receipt, storage, issue and distribution of stocks placed there by item managers from DLA and the military Services. DDC is also responsible for achieving customers' OST requirements and historically has accomplished this primarily through the management of depot processes and transportation mode choice.

Item Managers decide the range and depth of stocks held in each depot by directing purchases and scheduled returns. They also select the depot from which an issue will be made mainly through an automated process. The four principal Military Services operate within the confines of the above distribution system, but overlay their individual Service item management visions on the process. As previously mentioned differing Service attitudes in concepts such as

ownership, item management, wholesale/retail stocks and communication of requirements are reflected in their dealings with the DDC. This results in five separate internal distribution systems operating within the same distribution network.

The nature of military operations, requires rapid re-direction of effort, dramatic surges in capacity, and preemptive planning. This is very different from commercial consumer logistics practices and why implementing a tiered system meets current DOD readiness needs and is properly positioned to meet future needs as well.. To meet anticipated requirements, Defense Distribution must maximize the flexibility it offers Service item managers and customers. . This flexibility may be achieved when items are available at the SDPs when a contingency arises. The SDPs have the ability to meet higher demand surges along with the ability to move stocks for contingency support. Later in this document I'll review the support the global distribution system provided to Operation Enduring Freedom and provide specific details how the tiered concept supports contingency operations.

A Tiered Distribution system, as envisioned by DDC would consist of two tiers of depots within the distribution system. The upper tier would be made up of the two SDPs and Defense Distribution Center-Richmond (DDRV). All material buys and returns of DLA managed items would be directed to these depots. The lower tier would consist of depots with specific missions to support designated customers. This would primarily involve support to Service Maintenance Activities or OCONUS Theaters, but not exclusively. Lower tier depots would hold a broad range of stock with a shallow depth. Breadth would be based on the demands of the local designated customer base. Depth of stock would be based on the timing of the re-supply cycle from the upper tier. Global demand would be met from the stocks of DLA items in the upper tier. Service items would be handled in the same way with issuable repairables being moved to the upper tier in batches. Truly unique items for on-base maintenance, unfit repairables, Service end items, and high volume/low cost items will continue to be held at the lower tier depot.

In addition to the above physical description, the Tiered Depot concept would together the ICP and Service stock positioning policy with the distribution system policy. This integration of systems and policies will move DLA away from parochial systems and move DLA toward an optimized distribution system that saves time and cost.

FORWARD STOCK INITIATIVE

The Forward Stockage Initiative (FSI) developed as a logical extension of the tiered depot concept. The DDC has established Forward Distribution Sites in Europe and the Pacific. These

depots are referred to as Theater Distribution Platforms (TDP). The site in Europe is currently located in Germersheim, Germany, while the Pacific sites are located in Yokuska, Japan and Honolulu, Hawaii. Currently European theater storage & distribution is performed by two separate activities: Kaiserslautern Industrial Complex (KIC) and Defense Distribution Depot Europe (DDDE). The KIC & DDDE both perform Organizational Clothing and Individual Equipment (OCIE) distribution. In addition, the KIC provides CLASS III support to local Army customers, CLASS IX operational support, disposals, and redistributions to CONUS and Theater Retention Stocks. DDDE provides support to Europe, the Mediterranean area, and the Middle East with Subsistence, Clothing and Lumber.

The goals of the FSI are to improve overall readiness while reducing CWT. Throughout the process there must be a reduction in inventory, both wholesale and retail. Frequent vendor replenishment of depot stocks should yield minimum inventory investment and a high inventory turn rate. Wal-Mart type turn rates are not possible for DOD but more efficiency is possible. Transportation costs must be reduced while the stress on strategic airlift during contingencies must be curtailed. A move to scheduled OCONUS surface service could radically reduce order and ship times similar to the successes enjoyed by dedicated truck service in CONUS.

In order to reduce CWT, DLA in partnership with the services has begun the process of targeting items for positioning in Europe and the Pacific. Lessons learned from recent contingencies, in addition to current direction put forth by the services (JV-2020, etc.), have led to pre-positioning material in OCONUS forward sites to dramatically reduce CWT in the peacetime operations (readiness issues) and during contingency and significantly reduce transportation costs.

Prior to the development and implementation of the FSI the overwhelming majority of replenishment of OCONUS units was being shipped from CONUS, often through air channels, to meet requirements to OCONUS customers. This can be improved by moving replenishment stocks closer to the customers with items that are most difficult to provide (TANK TRACK, LUMBER, etc.). In the past we would have flown tank track to Europe; now it is already positioned in Europe, much closer to where it needs to be in a contingency or for readiness during peacetime operations.

The success of FSI, which I will discuss at length in the next section should be assessed from a strategic need/response, rather than current approaches, which have been targeted to individual services' needs. The establishment of additional TDPs to support Combatant Commanders' readiness requirements must be thoroughly reviewed. At end state each TDP must have material in stock to support all services in its theater, which are demand supported.

DEFENSE DISTRIBUTION DEPOT, EUROPE

An impressive example of how the FSI can positively affect a Combatant Commander's overall readiness is found when analyzing the impact the Defense Distribution Depot, Europe (DDDE) had in EUCOM. DDDE, as discussed earlier, is a subordinate command of DDC and is located in Germersheim, Germany. DDDE is the TDC primarily providing support to EUCOM.

In 2001 the DDC embarked upon a program to increase the amount of lines stocked at DDDE from 2,000 to over 26,000 lines. The results of this program significantly decreased the CWT for EUCOM customers and provided significant savings in overall transportation costs. Understanding what led to the DDC decision to increase the stockage levels and the steps required to fully implement the decision is important if the program is to be replicated in other areas.

Prior to the 1997 reorganization DDDE had been the Defense Distribution Depot Germersheim Germany (DDGG). In these early years, DDDE was predominately a subsistence distribution activity that supported the Defense Commissary Agency (DeCA). Immediately after the reorganization, DeCA took control of the subsistence mission and DDDE became the DLA's European Depot for limited Class I, II, IV, and IX items. During the period 1999 through 2000, DDDE expanded its mission by entering into a relationships with the Army and Air Force Exchange Service (AAFES) and USAREUR's Central Issue Facilities (CIFs) to provide support to AAFES military clothing exchange and Base Support Battalion CIF outlets. The next phase was the wholesale receiving, storing and issuing of Class III (packaged) products to all within USEUCOM and USCENTCOM.

During this same period DDDE underwent a significant facility renovation and upgrade project. Prior to the renovations, DDDE maintained 360,000 square footage of covered storage space, mainly in 1960's era, open bay storage warehouses. In 1998 a major renovation project was funded and in 1999 the process was begun to renovate and upgrade all existing facilities. The renovations effort resulted in an increase of 160,000 square feet of covered storage space with enhanced racking systems and docking space. The renovations also provided the opportunity to upgrade the existing electrical systems and communication infrastructure in order to support the latest innovations in automation and in-transit visibility programs.¹⁷

The facility renovation project also upgraded the existing Class III P (package) storage facility. The newly renovated facility now meets all the mandated European Community environmental standards. Maintaining this facility allowed DDDE to increase the amount of Class III(P) stored and resulted in a significant decrease in the amount of Class III having to be

flowed from CONUS to meet customer requirements. Customer wait time in Class III(P) was reduced from 60 to about 8 days.

In Dec 2000, in anticipation of the increased DDDE storage capability, the DDC tasked RAND to analyze EUCOM requisitions in view of increasing the total number of lines stored at DDDE. The criteria used for identifying potential candidates for stockage at DDDE was at least six requests over a one year period and items managed by DLA. The analysis identified over 24,000 line items which potentially could be stored and issued at DDDE.

A 1000%+ workload increase would obviously cause base operations costs to rise. Before implementing the stockage increase the DDC commander directed a business case analysis (BCA) be conducted to determine what the estimated costs of implementing the program would be.

Based on the increased workload the BCA identified the need to almost triple the existing work force. The BCA also identified additional equipment and automation costs and provided an estimate of the cost of purchasing the new inventory. The total estimated cost for implementing the stockage increase was \$10.6 million.

The BCA also identified the opportunity for significant savings in transportation costs through the implementation of the program. The savings in transportation costs occurred in several areas. First and foremost was the reduction in transportation charges by shipping via surface means (ship) rather than air ship. There were also savings identified by the reduction of shipments originating from other depots in the states. Finally by positioning stocks in Europe it was estimated there would be a reduction in premium air shipments originating from DDSP destined for European customers. The total estimated savings was \$14.6 million.

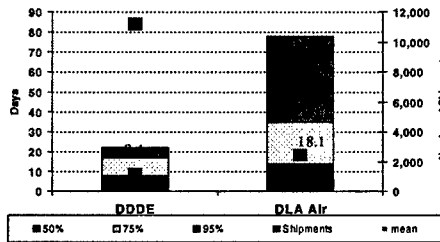
The benefits of implementing the proposed stockage increase were estimated to be \$3.5 million per year. However reducing DDC operations costs could not be the sole purpose for implementing the program. There had to be a readiness improvement also. RAND was again tasked to conduct analysis on the estimated reduction in CWT by implementing the proposed stockage increase. The RAND analysis identified a possible 10 day reduction in European CWT though the increase in stockage levels, coupled with the efficiencies gained by several SDMI Surface Committee initiatives.

Given the analysis provided and increased efficiencies provided by the DDDE renovation project the decision was made to go forward with the stockage level increase. The results have been dramatic. Since initiating the program in 2001 the CWT for those items stocked in DDDE vs items being shipped from CONUS has been reduced by almost 50%. As of Jan 2003 the CWT for CONUS shipments was 18.6 days, while the CWT for DDDE shipments was 8.4 days.

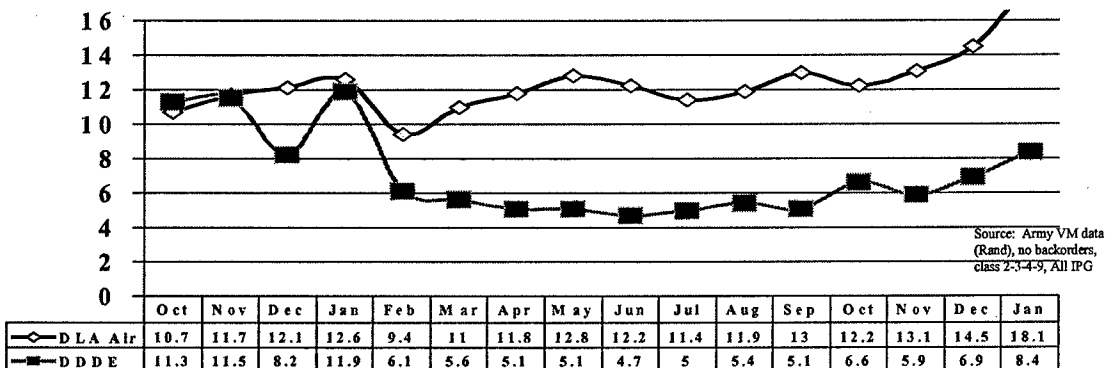
Defense Distribution Depot Europe

Stock Positioning - CWT

CWT to USAREUR Jan 03 (FY03)



*** Reduces CWT**
*** Saves Money**



DDDE STOCK POSITIONING METRIC FIGURE 3

The savings incurred from this FSI program and the reduced CWT/RWT provides proof that with proper analysis and infrastructure significant savings can be achieved. This program is not European specific. The process can be replicated in other areas as well. the DDC is currently reviewing opportunities to expand the FSI program.

GLOBAL DISTRIBUTION AND OPERATION ENDURING FREEDOM

In the aftermath of the 9/11 terrorist attack on the United States the existing global distribution system was to be severely tested. New distribution networks, in areas of the world with very limited infrastructure, would be required in order to support coalition forces fighting in Afghanistan. While at the same time distribution support to existing US forces could not be interrupted due to the new contingency. By incorporating the lessons learned from previous SDMI endeavors the distribution partnership of DLA, USTRANSCOM, and each of the services met the challenge and provided outstanding support to the deployed forces.

The most serious challenge to the global distribution system during the initial phases of deployment of forces and sustainment was the possible disruption of service to other deployed US forces. During Operation DESERT STORM major disruptions to existing air channels

occurred due to the demands of meeting the deployed forces requirements. To ensure disruptions did not occur new procedures would be required.

Several months prior to 9/11 AMC developed contracts with several commercial air carriers to ensure aircraft would be available in the event military aircraft were not available to provide service. This program, initially referred to as the "Shock Absorber" had been implemented to a limited degree prior to 9/11 in support of US Central Command (CENTCOM) requirements. It was not known how the program would be respond to large scale contingency requirements.

In the aftermath of 9/11 all airline flights were grounded. Within a week of the grounding, through coordination with CENTCOM staff representatives, AMC determined that a majority of military aircraft would be required to support the OPERATION ENDURING FREEDOM requirements. The "Shock Absorber" carriers were notified and by late September commercial carriers were flying the sustainment routes which previously had been flown via military aircraft.

The commercial carriers proved equal to the task of supporting the global distribution system. Not only did the commercial carriers fulfill the tonnage requirement which had been previously moved via military air, the commercial carriers were able to absorb a 60% increase in the amount of tonnage being moved prior to 9/11. The commercial carriers moved the additional weight without any noticeable disruption in service to the other major DOD customers¹⁸.

It is important to note that while the commercial carriers played a significant role in maintaining the uninterrupted sustainment flow, they did not do it on their own. The SDMI principles of stock positioning, scheduling and synchronization also played an important role in meeting the global distribution system requirements.

To ensure distribution efforts were coordinated the DDC established a liaison cell with the TRANSCOM J3/4 Future Operations Cell. This liaison proved key in the development of contingency plans and procedures for dealing with possible disruptions to the global distribution system.

As sustainment requests began to flow the DDC, through coordination working with CENTCOM staff, ensured requirements were properly packaged and delivered to APODs in concurrence with the departing aircrafts schedule. This synchronizing of the flow of material to the APODs ensured full utilization of aircraft and limited disruption to the schedule.

CONCLUSION

In the course of this paper I have discussed the role the global distribution system and stock positioning play in supporting Joint Vision 2020 and the concept of Focused Logistics. We've looked at the Strategic Distribution Management Initiative and some of the initiatives implemented improve upon the global distribution process.

We also discussed the Defense Distribution Command organization and the tiered distribution process. The forward stockage initiative has significantly reduced the overall CWT and produced a significant savings in transportation costs.

The ability of the global distribution system to meet the unanticipated demands resulting from OEF substantiate that the on-going efforts to produce improvement in the global distribution process are producing significant improvements in the process. However, there is still much to be accomplished if we are to realize the goals established in Joint Vision 2020.

If we are to optimize the DOD's global distribution system we must fully integrate the efforts of DLA, the services and combatant commanders. A stock positioning policy which requires the services to position stocks to fully optimize the global distribution network must be implemented. As discussed previously the current process which allows separate service controls, without unified controls, leads to confusion, poor distribution performance and higher overall costs.

If the services were directed to follow the stock positioning strategy as outlined in DDC's tiered distribution system significant reductions in inventories, CWT and overall transportation costs would be realized. Resources currently being used to support the services' stock positioning strategies would be available to support other DOD priorities. A more efficient, global distribution system would greatly enhance DOD readiness.

In order to support tenets of Joint Vision 2020 the global distribution system must be responsive and capable of meeting the needs of the deployed force. The system must ensure effectiveness while maintaining the highest levels of efficiency. Recent initiatives and new processes improvements have greatly enhanced the overall effectiveness of the current system. By working together and building on the lessons learned DOD can achieve a world class, state of the industry, global distribution system.

Currently DOD is maintaining a sizable force deployed and operating in multiple locations across the globe. To ensure the needs of our deployed soldiers, airmen, sailors and Marines are met, on time, every time we must take the necessary steps to enhance our current global distribution system. To not take these steps would be a disservice to those great men and woman proudly serving this nation.

By implementing a DOD global distribution system, patterned after the DDC successes, we will be taking the first steps in meeting not only the current needs, but also laying the foundation for meeting the services' logistics needs in 2020 and beyond.

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² Joint Chiefs of Staff, Doctrine for Logistic Support of Joint Operations, Joint Pub 4-0 (Washington D.C.:U.S. Joint Chiefs of Staff, 6 April 2000), D1.

³ Joint Chiefs of Staff, Joint Vision 2010, (Washington D.C.:U.S. Joint Chiefs of Staff, 1996), 24.

⁴ Joint Chiefs of Staff, Joint Vision 2020, (Washington D.C.:U.S. Joint Chiefs of Staff, June 2000), 25.

⁵ Joint Chiefs of Staff, Joint Doctrine for Global Distribution, Joint Pub 4-9 (Washington D.C.:U.S. Joint Chiefs of Staff, 14 Dec 2001), I-2.

⁶ Ibid., I-3.

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⁸ Air Force Material Fact Sheet, available from http://www.afmc-pub.wpafb.af.mil/HQ-AFMC/PA/fact_sheet/afmcfact.htm>. Accessed on 23 February 2003.

⁹ Joint Chiefs of Staff, Joint Doctrine for Global Distribution, Joint Pub 4-9 (Washington D.C.:U.S. Joint Chiefs of Staff, 14 Dec 2001), II-10

¹⁰ Ibid., II-11.

¹¹ Ibid., II-13.

¹² John Dumond, VELOCITY MANAGEMENT: The Business Paradigm That Has Transformed U.S. Army Logistics (Santa Monica, CA. RAND Arroyo Center, 2001), x.

¹³ USTRANSCOM and Defense Logistics Agency, Strategic Distribution Management: Initiative Air Distribution Test (SAD-T) and Theater Distribution Test CONOPS (Scott AFB, IL: United States Transportation Command, 6 July 2000), 2.

¹⁴ Ibid., 3.

¹⁵ Defense Logistics Agency 2002 Customer Assistance Handbook, available from <http://www.supply.dla.mil/CustomerHandbook/index.asp>>. Accessed 15 February 2003.

¹⁶ Defense Distribution Center, White Paper on Tiered Distribution (New Cumberland, PA, Defense Distribution Center, February 2001), 1-3.

¹⁷ Defense Distribution Center, Europe, DDDE COMMAND BRIEF March 2003 (Germersheim, Germany, Defense Distribution Center, Europe)

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Thanks for your consideration.

Sincerely,

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